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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,840	03/12/2004	Mitchell C. Smithson	WELL-010280	8468

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EXAMINER	
WONG, ALBERT KANG	
ART UNIT	**PAPER NUMBER**
2635	

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/799,840	SMITHSON ET AL.	
	Examiner	Art Unit	
	Albert K. Wong	2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/23/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. This Office action is in response to the application filed March 12, 2004. Claims 1-45 are pending.

2. Claim 15 is objected to because of the following informalities: Please correct the spelling error. Appropriate correction is required.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson 6,886,631.

Regarding claim 1, the communication medium is shown as the cable in Figure 1. The claimed first and second downhole instrument associated with the communication medium to measure a parameter and to transmit data in a first and second time frame is shown in figure 3, items 332 and 334. Also, see col. 7 for discussion of TDM. Wilson does not teach the interleaving of the first and the second data. However, one of ordinary skill in the art would recognize that a system with only two sensors would result in interleaved data, as the sensors would alternatively communicate their values in their respective time slots. Thus, it would have been obvious that the interleaving of data would be entirely dependent on the number of sensors and the number of communications made.

Regarding claims 2-4, Wilson teaches in cols. 5-7 that the cycling of power may be used to initiate communication from the sensors. This would also result in the initialization of the system and result in a change in voltage.

Regarding claim 5, see col. 6.

Regarding claim 6, the communication medium described in Wilson is a wire.

Regarding claims 7 and 9, see col. 3 for parameters measured.

Regarding claim 8, Wilson does not teach the measurement of identical parameters. It would have been obvious to have multiple identical sensor for the purpose of redundancy.

Regarding claims 10-11, the system in Wilson periodically measures parameters from its various sensors.

Regarding claim 12, the use of a quartz downhole gauge in a downhole system is conventions. See Riley reference. It would have been obvious to use any conventional sensor associated with a downhole environment. A quartz sensor is typically used for measuring pressure which is one of the parameters taught in Wilson.

Regarding claim 13, the communication medium is shown as the wire in figure 1. The first and second downhole instruments to measure a parameter are the sensors as discussed in claim 1. Wilson teaches the transmission of the data from the first and second sensors in a first and second time slot but does not explicitly recite a frame. A frame is a time interval where a packet of data is transmitted. The time interval comprising the time slices for the first and the second parameter would constitute such an interval. It would have been obvious to one of ordinary skill in that art that the interval would meet the definition of a frame.

Regarding claims 14, 15, 18, 21, 23, 24, and 25-28, these limitations have been addressed in prior claims.

Regarding claim 16, col. 7 teaches that the cycle may repeat and thus additional frames are possible.

Regarding claim 17, the transmission of data in response to a condition constitutes an alarm. Alarms are conventional in telemetry systems since the purpose of such systems is to monitor the condition of an item of interest. It would have been obvious to transmit data in response to a condition to reduce the transmission when conditions are normal.

Regarding claims 19-20, one of ordinary skill in the art would recognize that TDM systems require synchronization of the clocks of the various transmitters. It would have been obvious that the system must be reinitialized if a timing errors occurs. Otherwise, communication would not be possible. Leading and lagging slots are examples of lack of synchronization because the sensors are transmitting out of sequence.

Regarding claim 22, when the power is cycled, the power to the first and the second instruments are alternated.

Regarding claims 29-45, these method claims correspond with the apparatus claims. The use of the apparatus in its intended manner is considered to be obvious.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited but not applied references teach examples of TDM and telemetry systems and are considered relevant to the claims and the disclosed invention. Applicant should consider these references prior to the preparation of a response.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert K. Wong whose telephone number is 571-272-3057. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 703-305-4704. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Albert K. Wong
May 10, 2005